

Response to Amendment & Arguments

Claim 1 has been amended to recite nylon as a required component of the coating composition. Applicant has not presented any arguments to rebut the rejection of claims over Yeh in view of Weikard et al and further in view of Van Den Berg et al. Van Den berg et al teach compositions analogous to those taught by Yeh and Weikard et al comprising a polyurethane dispersion, photoinitiator and a polyamide, as discussed herein below.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims recite elongation and Konig Hardness properties of the “polyurethane dispersion”. It is believed that these are properties of the coatings obtained by UV curing the coating compositions and not of the polyurethane dispersion. It is not clear how a polyurethane dispersion can have a Konig Hardness.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-14 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeh (6,347,408) in view of Weikard et al (6,960,639) and further in view of Van Den Berg et al (6,987,135).

Yeh discloses coating compositions for gloves comprising a crosslinked polyurethane impregnated with silicone. A radiation crosslinkable polyurethane dispersion is taught from column 2, line 64, to column 3, line 50. A siloxane based silicone emulsion, such as poly(dimethylsiloxane) emulsion is taught in column 3, line 51-54, and exemplified by "SM 2140" from General Electric in column 4, lines 54-61. The polydimethylsiloxane appears to meet the high molecular weight and viscosity requirements now set forth in claim 1. See Table 1 for components of the disclosed compositions and Example 1, column 8, line 61, to column 9, line 5. Although Yeh teach that the polyurethane is radiation crosslinkable, photoinitiators are not mentioned and thermal curing is employed in the examples.

Weikard et al disclose aqueous coating compositions based on polyurethane dispersions and a photoinitiator. Table 2 discloses compositions comprising a wax and a BYK leveling additive. Weikard et al teach that the preferred photoinitiators are those easy to incorporate into aqueous coating compositions. The disclosed preferred photoinitiators are alpha-hydroxyalkylphenones, such as Irgacure 500 and Esacure KIP photoinitiators (column 14, lines 54-59). Light stabilizers, UV absorbers, wetting agents and dispersions are taught in column 15, lines 27-40. Wax dispersing agent is used in the examples (see Table 2).

Van Den Berg et al disclose photoactivatable water borne coating compositions comprising a polyurethane dispersion and a photoinitiator. Table 8 discloses compositions comprising KIP 100F as photoinitiator, a BYK defoamer, BYK leveler and a polyamide wax

orgasol each in amounts encompassed by the instant claims. Applicant's examples of the instantly claimed compositions comprise both nylon and reactive wax.

Yeh and Weikard et al do not teach polyamide additives in the disclosed compositions. However, It would have been obvious to one skilled in the art at the time of the invention to employ a polyamide wax orgasol, as taught by Van Den Berg et al in analogous aqueous polyurethane dispersions, in the aqueous polyurethane dispersions taught by Yeh in combination with Weikard et al. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation that the polyamide additives would function advantageously in the dispersions disclosed by Yeh. It would have been obvious to one skilled in the art at the time of the invention to employ radiation for crosslinking the radiation crosslinkable polyurethane dispersions taught by Yeh because Yeh teaches that the polyurethane dispersion are radiation crosslinkable. It would have been obvious to one skilled in the art at the time of the invention to employ the preferred photoinitiators taught by Weikard et al in the compositions taught by Yeh wherein irradiation is used for crosslinking. Motivation is provided by the teaching of Weikard et al that photoinitiators easily incorporated into aqueous coating compositions are preferred for use in the polyurethane emulsions. With respect to claims 3 and 11-13, Yeh does not mention adding a UV stabilizer, a UV absorber, a wax or a nylon. However, Weikard et al teach adding light stabilizers and wax dispersing agent. It would have been obvious to one skilled in the art at the time of the invention to employ light stabilizers and a wax dispersing agent, as taught by Weikard et al in analogous aqueous polyurethane emulsions, in the compositions disclosed by Yeh. One of ordinary skill in the art at the time of the invention would

have been motivated by a reasonable expectation of providing light stabilization to the cured coating and improving dispersion in the aqueous dispersions, as taught by Weikard et al.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yeh, Weikard et al and Van Den Berg et al, as applied to claims 1-14 and 18-21 above, and further in view of Griswold et al (5,525,427). The disclosures of Yeh, Weikard et al and Van Den Berg et al are discussed above. Yeh teaches polysiloxane emulsions but does not specifically mention methylmethoxypolysiloxane. Griswold et al teach a water reducible weatherstrip coating composition comprising a silicone emulsion, a bath life extender, such as a polyurethane dispersion, and a crosslinking composition. See column 5, lines 29-47, and column 7, lines 43-60. Methylmethoxypolysiloxane is taught as a water reducible resin acting as a bath life extender and water repellant.

It would have been obvious to one skilled in the art to employ a polysiloxane having a methoxy group, as taught by Griswold et al, as the silicone emulsion in the compositions disclosed by Yeh, Weikard et al and Van Den Berg et al in order to take advantage of its function as a bath life extender and a water repellant, taught by Griswold et al.

Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeh (6,347,408) in view of Weikard et al (6,960,639) and further in view of Van Den Berg et al, as applied to claims 1-14 and 18-21 above, and further in view of WO '728. The disclosures of Yeh and Weikard et al are discussed above. WO '728 teaches that analogous photocurable compositions comprising a polyurethane dispersion and silicone wetting agent are useful for

coating weatherstrip seals and other automotive seals while avoiding high solvent emissions (page 4, line 23, to page 5, line 4). It would have been obvious to one skilled in the art at the time of the invention to employ the coating compositions taught by Yeh in combination with Weikard et al for automotive seals and coatings requiring flexibility. Yeh teaches composition for coating flexible gloves which are rubber materials analogous to the rubber materials used for seals in automotive applications.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Susan W. Berman/ whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 571 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SB
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/Susan W Berman/
Primary Examiner
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